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**Pantell et al.**

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(54) **NEUTRON SOURCE FOR NEUTRON CAPTURE THERAPY**

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**A61N 5/10** (2006.01)

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CPC ..... **A61N 5/1077** (2013.01); **A61N 5/10** (2013.01); **A61N 2005/109** (2013.01); **A61N 2005/1094** (2013.01)

(58) **Field of Classification Search**

CPC ..... A61N 2005/109

See application file for complete search history.

(57) **ABSTRACT**

A therapy apparatus for producing thermal neutrons at a tumor site in a patient has a plurality of fast neutron sources surrounding a moderator, a fast neutron reflecting media around the fast neutron sources, a gamma-ray and neutron shielding media surrounding the fast neutron reflecting media, and a patient chamber positioned inside the moderator. The fast neutron sources are positioned around the moderator to maximize and direct the neutron flux to said tumor site.

**8 Claims, 12 Drawing Sheets**

